What is claimed is:

1.   A method for generating a color array based on thermal band data, the method comprising:

        receiving an array of pan band data including units of data, the pan band data
5   being converted to a power format;

        receiving an array of thermal band data including units of data, the thermal band
          data being converted to a temperature format; and

        generating a color array including units of data, each unit having red, green, and
          blue values,

10   wherein generating the color array is based on the received arrays of the pan band
          data and the thermal band data.

2.   The method of Claim 1, wherein generating a color array includes generating a red value for each unit by adding a value of each corresponding unit in the pan band data to a value of each corresponding unit in the thermal band data.

15   3.   The method of Claim 2, wherein generating a color array includes generating green and blue values for each unit by determining a mean temperature value for the received thermal band data and adding a value of each corresponding unit in the pan band data to the determined mean temperature value.

4.   The method of Claim 2, wherein generating a color array includes generating green
20 and blue values for each unit by determining an average temperature value for the received thermal band data and adding a value of each corresponding unit in the pan band data to the determined mean temperature value.

5.   The method of Claim 1, further comprising generating an image based on the generated color array.

25   6.   The method of Claim 5, further comprising displaying the generated image on a display device.

7.   The method of Claim 5, further comprising printing the generated image on a printing device.

8.   The method of Claim 1, further comprising converting the received thermal band data into a temperature format, wherein generating the color array is based on the temperature formatted thermal band data.

9.   The method of Claim 8, further comprising changing spatial resolution of the temperature formatted thermal band data to match spatial resolution of the received pan band data.

10.   The method of Claim 1, further comprising converting the received pan band data into a radiance format and converting the radiance formatted pan band data into a power format.

11.   The method of Claim 10, wherein converting the radiance formatted pan band data into a power format is based on bandwidth parameters of the pan band data.

12.   A computer-based system for generating a color array based on thermal band data, the system comprising:

    a sensor including:

        a first component for receiving an array of pan band data including units of data, the pan band data being in power format; and

        a second component for receiving an array of thermal band data including units of data, the thermal band data being in a temperature format; and

    a processor including:

        a third component for generating a color array based on the received arrays of the pan band data and the thermal band data,

        wherein the color array includes units of data, each having red, green, and blue values.

13.   The system of Claim 12, wherein the third component generates a red value for each unit by adding a value of each corresponding unit in the pan band data to a value of each corresponding unit in the thermal band data.

14.   The system of Claim 13, wherein the third component further generates green and blue values for each unit by determining a mean temperature value for the received thermal band data and adding a value of each corresponding unit in the pan band data to the determined mean temperature value.

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15. The system of Claim 13, wherein the third component further generates green and blue values for each unit by determining an average temperature value for the received thermal band data and adding a value of each corresponding unit in the pan band data to the determined mean temperature value.

16. The system of Claim 12, wherein the processor further includes a fourth component for generating an image based on the generated color array.

17. The system of Claim 16, further comprising a display device for displaying the generated image.

18. The system of Claim 12, wherein the second component converts the received thermal band data into a temperature format, and wherein the third component generates the color array based on the temperature formatted thermal band data.

19. The system of Claim 18, wherein the second component changes spatial resolution of the temperature formatted thermal band data to match spatial resolution of the received pan band data.

20. The system of Claim 12, wherein the first component converts the received pan band data into a radiance format and converts the radiance formatted pan band data into a power format.

21. The system of Claim 20, wherein the first component converts the radiance formatted pan band data into a power format based on bandwidth parameters of the pan band data.

22. A method for generating an image based on thermal band data, the method comprising:

    receiving an array of pan band data including units of data in a first resolution;

    converting the received pan band data into a radiance format;

    converting the radiance formatted pan band data into a power format;

    receiving an array of thermal band data having units of data in a second resolution;

    converting the received thermal band data into a temperature format;

    changing the resolution of the temperature formatted thermal band data to match the resolution of the received pan band data;

generating a color array based on the received array of the pan band data and the array of the changed thermal band data, the color array including units, each unit having red, green, and blue values; and

generating an image based on the generated color array.

23.   The method of Claim 22, wherein generating a color array includes generating a red value for each unit by adding a value of each corresponding unit in the pan band data to a value of each corresponding unit in the thermal band data.

24.   The method of Claim 23, wherein generating a color array includes generating green and blue values for each unit by determining a mean temperature value for the received thermal band data and adding a value of each corresponding unit in the pan band data to the determined mean temperature value.

25.   The method of Claim 23, wherein generating a color array includes generating green and blue values for each unit by determining an average temperature value for the received thermal band data and adding a value of each corresponding unit in the pan band data to the determined mean temperature value.

26.   The method of Claim 25, further comprising displaying the generated image on a display device.

27.   A computer-program product residing on a computer-readable medium for performing the method of Claim 22.

28.   A computer-program product residing on a computer-readable medium for performing the method of Claim 24.

29.   A computer-program product residing on a computer-readable medium for performing the method of Claim 25.

30.   A computer-program product residing on a computer-readable medium for performing the method of Claim 26.

31.   A method for generating a color array based on thermal band data, the method comprising:

receiving an array of pan band data including units of data from a LANDSAT system, the pan band data being converted to a power format;

receiving an array of thermal band data including units of data from the LANDSAT system, the thermal band data being converted to a temperature format; and

generating a color array including units of data, each unit having red, green, and blue values,

wherein generating the color array is based on the received arrays of the pan band data and the thermal band data.

32. A system for generating a color array based on thermal band data, the system comprising:

a receiver including:

a first component for receiving an array of pan band data including units of data from a LANDSAT system, the pan band data being in power format; and

a second component for receiving an array of thermal band data including units of data from the LANDSAT system, the thermal band data being in a temperature format; and

a processor including:

a third component for generating a color array based on the received arrays of the pan band data and the thermal band data,

wherein the color array includes units of data, each having red, green, and blue values.